DH-IPC-HFW5541E-ZE

5MP WDR IR Bullet AI Network Camera

- 1/2.7" 5Megapixel progressive scan CMOS
- H.265 & H.264 triple-stream encoding
- 20 fps@2592 × 1944, 50/60 fps@1080 (1920 × 1080)
- WDR (120 dB), Day/Night (ICR), 3D DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS (DSS/PSS) & DMSS
- 2.7 mm–13.5 mm motorized lens
- 2/1 Alarm in/out, 1/1 audio in/out
- Max. IR LEDs Length 50 m
- Micro SD memory, IP67, IK10

Dahua AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc. The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 and vandal resistant to IK10 standard.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. Dahua cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

Face Attributes

Through the use of deep learning algorithms to analyze facial images, Dahua cameras can extract six facial attributes from each frame, including Age, Gender,Expression(Jolly/Surprise/Normal/Rage/Sad/Disgusted/Confused/Frightened), Glasses,Mouth Mask, Moustache & Beard. Customers can acquire data of interest via face attributes statistics.

Perimeter Protection

Dahua's Perimeter Protection functions significantly improved accuracy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.

Metadata

Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Dahua face detection camera can extract six facial attributes and output the metadata for analysis.

ePoE technology

The ePoE technology of Dahua, designed internally, adopts advanced 2D-PAM3 coding modulation from physical layer, and realizes full duplex transmission over 800 meters at the speed of 10Mbps, or 300 meters at the speed of 100Mbps via Cat 5 or coaxial cable media. Besides, it supports PoE and PoC power supply technology which has greatly simplified construction and wiring. Dahua ePoE technology offer a new way to accomplish long distance transmission between IP camera and network switch. It allows more flexible surveillance system design, improves reliability and saves construction and wiring cost.

Protection(IP67, IK10, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.

Technical Specification

Camera

Image Sensor	1/2.7" 5Megapixel progressive scan CMOS
Effective Pixels	2592 (H) × 1944 (V)
RAM/ROM	1 GB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
Minimum Illumination	0.015 Lux@F1.5
IR Distance	Distance up to 50 m (164 ft)
IR On/Off Control	Auto/Manual
IR LEDs	4

Lens

Lens Type	Motorized
Mount Type	Board-in
Focal Length	2.7 mm–13.5 mm
Max. Aperture	F1.5
Angle of View	H: 100°–28°, V: 72°–21° (2592 × 1944) H: 104°–29°, V: 55°–16° (2688 × 1520)
Optical Zoom	5x
Aperture Type	Auto
Close Focus Distance	0.8 m (2.62 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	W	64m(210ft)	26m(85ft)	13m(43ft)	6m(20ft)
	T	212m(696ft)	85m(279ft)	42m(138ft)	21m(69ft)

Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0°–360°; Tilt: 0°–90°; Rotation: 0°–360°

Artificial Intelligence

Face Capture	Support face image capture
Face Attributes	Support 6 kinds of face attributes extraction: Age, Gender,Expression (Jolly, Surprise, Normal, Rage, Sad, Disgusted, Confused, Frightened), Glasses, Mouth Mask, Moustache & Beard
Perimeter Protection	Tripwire, Intrusion (Human & Vehicle classification)
People Counting	Support Line crossing/Region/Queueing people counting; Support 4 accesses independent detection, 4 areas independent detection

General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing

Video

Compression	H.265+, H.265, H.264+, H.264, H.264B, H.264H, MJPEG (sub stream)
Streaming Capability	3 Streams
Resolution	2592 × 1944/2688 × 1520/2560 × 1440/2304 × 1296/1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)
Frame Rate	Main Stream: 2592 × 1944 (1 fps–20 fps) 2560 × 1440 (1 fps–25/30 fps) 1920 × 1080 (1 fps–50/60 fps)
	Sub Stream: D1 (1 fps–20/30 fps) D1 (1 fps–50 fps)
	Third Stream: 1080P (1 fps–17 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–8192 Kbps
Day/Night	Auto(ICR)/Color/B/W
BLC Mode	BLC/HLC/WDR (120 dB)
White Balance	Auto/Natural/Street Lamp/Outdoor/Manual
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detetion	Off/On (4 Zone, Rectangle)
Region of Interest	Off/On (4 Zone)
Electronic Image Stabilization (EIS)	Support
Smart IR	Support
Defog	Support
Digital Zoom	N/A
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, AAC, G.726, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP, ICMP, HTTPS, IGMP, 802.1x
Interoperability	ONVIF (Profile S/Profile G), CGI, Milstone, Genetec, P2P
Streaming Method	Unicast/Multicast
Max. User Access	20 Users
Edge Storage	NAS FTP Micro SD card 256 GB
Web Viewer	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	Smart PSS, DSS, P2P
Smart Phone	iOS, Android

Certifications

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

Interface

Video Interface	N/A
Audio Interface	1/1 channel In/Out
RS485	N/A
Alarm	2 channel In: 5mA 5V DC 1 channel Out: 300mA 12V DC

Electrical

Power Supply	DC 12V (±30%), PoE (802.3af) (Class 0)
Power Consumption	<10.9W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F) /10%RH–95%RH
Strorage Conditions	-30° C to +60° C (-22° F to +140° F)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Metal, plastic
Dimensions	273.2 mm × 95.0 mm × 95.0 mm (10.76” × 3.74” × 3.74”)
Net Weight	1.11 kg (2.44 lb)
Gross Weight	1.51 kg (3.33 lb)

Ordering Information

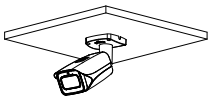
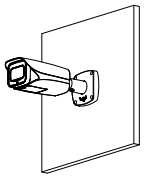
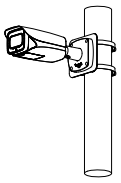
Type	Part Number	Description
5MP camera	DH-IPC-HFW5541EP-ZE	5MP WDR IR Bullet AI Network Camera, WDR, PAL
	DH-IPC-HFW5541EN-ZE	5MP WDR IR Bullet AI Network Camera, WDR, NTSC
	IPC-HFW5541EP-ZE	5MP WDR IR Bullet AI Network Camera, WDR, PAL
	IPC-HFW5541EN-ZE	5MP WDR IR Bullet AI Network Camera, WDR, NTSC
Accessories (optional)	PFA152-E	Pole mount

Accessories

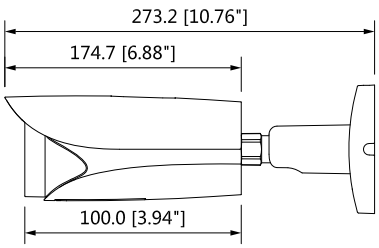
Optional:

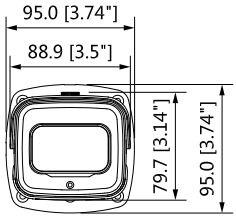
PFA152-E
Pole Mount

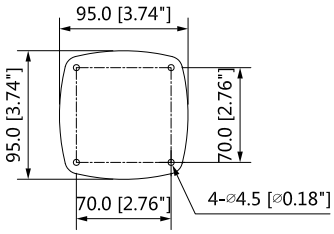
LR1002
ePoE Over Coax Converter

Ceiling Mount	Wall Mount	Pole Mount
		PFA152-E 

Dimensions (mm[inch])







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